

Jerome R. Robinson

Department of Chemistry
324 Brook St.
Brown University
Providence, RI 02912

phone: (401) 863-3249
<https://www.brown.edu/academics/chemistry/jerome-r-robinson>
<https://www.robinsongroup.wixsite.com/brown>
Jerome_Robinson@Brown.edu

Professional Experience

Assistant Professor , Brown University, Providence RI	July 2016 – Present
Research Chemist , Axalta Coating Systems, Wilmington DE	2014 – 2016
Visiting Assistant Professor , Haverford College, Haverford PA	2016
Visiting Assistant Professor , Widener University, Chester PA	Fall 2015
Visiting Research Scientist , Institut Català d'Investigació Química (ICIQ), Tarragona Spain	Fall 2012

Education

Ph.D. Chemistry, University of Pennsylvania, Philadelphia, PA Co-Advisors: Dr. Patrick J. Walsh and Dr. Eric J. Schelter Thesis: <i>f</i> -Element BINOLate Complexes: Controlling Secondary Structure for Applications in Redox Chemistry, Complex Design, and Asymmetric Catalysis	April 2014
B.S. Chemistry (ACS Certified, <i>Honors</i>) University of Wisconsin – La Crosse, La Crosse, WI Minor: Mathematics, Advisor: Dr. Rob W. McGaff	May 2009

Selected Awards and Honors

CAREER Award (NSF)	2022
Junior Faculty Teaching Fellow (Brown University)	2017
Salomon Faculty Research Award (Brown University)	2017
Dean's Scholar (School of Arts & Sciences; University of Pennsylvania)	2014
Penn Award for Excellence in Graduate Research (University of Pennsylvania)	2013
Moelis Access Science Fellow (University of Pennsylvania)	2011-2013
Penn Prize for Excellence in Teaching by Graduate Students (University of Pennsylvania)	2010
ACS Outstanding Student in Chemistry (La Crosse / Winona Section)	2009
Dean's Distinguished Fellowship (UW – La Crosse)	2008

Publications

(Robinson group: Graduate = †, Undergraduate = ‡, Corresponding = *)

- 34.** Chellali, J. E.;[†] Alverson, A.;[†] Robinson, J. R.* "Zinc Aryl/Alkyl β -diketiminates: Balancing Accessibility and Stability for High-Activity Ring-opening Polymerization of *rac*-Lactide" *ACS Catal.* *Accepted*.
- 33.** Koller, A. J.; Saini, S.; Chaple, I. F.; Joaqui-Joaqui, M. A.; Paterson, B. M.; Ma, M. T.; Blower, P. J.; Pierre, V. C.; Robinson, J. R.; Laipe, S. E.; Boros, E.* "A General Design Strategy Enabling the Synthesis of Hydrolysis Resistant, Water-Stable, Titanium(IV) Complexes" *Angew. Chem. Int. Edit.* **2022**, *In Press*. DOI: [10.1002/anie.202201211](https://doi.org/10.1002/anie.202201211)
- 32.** Dong, X.;[†] Brown, A. M.;[†] Woodside, A. J.;[†] Robinson, J. R.* "N-Oxides Amplify Catalyst Reactivity and Isoselectivity in the Ring-Opening Polymerization of *rac*- β -Butyrolactone" *Chem. Commun.* **2022**, *Accepted*. DOI: [10.1039/D1CC05127J](https://doi.org/10.1039/D1CC05127J) [Emerging Investigators 2021]
- 31.** Dong, X.;[†] Robinson, J. R.* "The Versatile Roles of Neutral Donor Ligands in Tuning Catalyst Performance for the Ring-Opening Polymerization of Cyclic Esters" *New J. Chem.* **2022**, *46*, 444-453. [Emerging Investigators 2021]
- 30.** Zuckerman, L.; Vargo, N. P.;[†] May, C.; Crockett, M.; Hyre, A.; McNeely, J.; Elinburg, J.; Brown, A. M.;[†] Robinson, J. R.; Rheingold, A.; Doerrer, L. H.* "Thiolate-thione Redox-Active Ligand with a Six-membered Chelate Ring via Template Condensation and its Pt(II) Complexes" *Inorg. Chem.* **2021**, *60*, 13376-13387.
- 29.** Vargo, N. P.;[†] Harland, J. B.; Musselman, B. W.; Lenert, N.*; Ertem, M. Z.*; Robinson, J. R.* "Calcium-ion Binding Mediates the Reversible Interconversion of Cis and Trans Peroxido Dicopper Cores" *Angew. Chem. Int. Edit.* **2021**, *60*, 19836-19842.
- 28.** Panetti, G. B.; Robinson, J. R.*; Schelter, E. J.*; Walsh, P. J.* "Expanding the Rare-Earth Metal BINOLate Catalytic Multitool beyond Enantioselective Organic Synthesis" *Acc. Chem. Res.* **2021**, *54*, 2637-2648.
- 27.** Shen, M.; Yu, C.; Guan, H.; Dong, X.;[†] Harris, C.; Xiao, Z.; Yin, Z.; Muzzio, M.; Lin, H.; Robinson, J. R.; Colvin, V. L.; Sun, S.* "Nanoparticle-Catalyzed Green Chemistry Synthesis of Polybenzoxazole" *J. Am. Chem. Soc.* **2021**, *143*, 2115-2122.

26. Casey, K. C.;[†] Brown, A. M.;[†] Robinson, J. R.^{*} "Yttrium and lanthanum bis(phosphine-oxide)methanides: structurally diverse, dynamic, and reactive" *Inorg. Chem. Front.* **2021**, 8, 1539-1552. [Part of the themed collection: **Rare Earth Chemistry – In memory of Professor Xu Guangxian at his centenary**]
25. Vaughn, B. A.; Brown, A. M.;[†] Ahn, S. H.; Robinson, J. R.^{*} Boros, E.* "Is Less More? Influence of the Coordination Geometry of Copper(II) Picolinate Chelate Complexes on Metabolic Stability" *Inorg. Chem.* **2020**, 59, 16095-16108. [Selected as a Featured Article, included as a virtual issue of "Featured Articles of 2020". One of 18 articles selected for 2020.]
24. Casey, K. C.;[†] Appiah, J. K.;[‡] Robinson, J. R.^{*} "Low-symmetry β -diketimine Aryloxide Rare-Earth Complexes: Flexible, Reactive, and Selective" *Inorg. Chem.* **2020**, 59, 14827-14837. [Selected as a Featured Article, included as a virtual issue of "Featured Articles of 2020". One of 18 articles selected for 2020.]
23. Dong, X.;[†] Robinson, J. R.^{*} "The Role of Neutral Donor Ligands in the Isoselective Ring-Opening Polymerization of *rac*- β -Butyrolactone." *Chem. Sci.* **2020**, 11, 8184-8195.
22. Zabula, A. V.; Dey, S.; Robinson, J. R.; Cheisson, T.; Higgins, R. F.; Bhargava, G.; Nahas, R. C.; Cinoman, D.; Schelter, E. J. "Screening of Molecular Lanthanide Corrosion Inhibitors by a High-Throughput Method" *Corrosion Science* **2019**, 108377.
21. Yu, C.; Guo, X.; Yin, Z.; Zhao, Z.; Li, X.; Robinson, J. R.; Muzzio, M.; Barbosa, C.; Shen, M.; Yuan, Y.; Wang, J.; Antolik, J.; Lu, G.; Su, D.; Chen, O.; Guduru, P.; Seto, C.; Sun, S. "Highly Efficient AuPd Nanoparticle Catalyst for Synthesizing Polybenzoxazole with Controlled Polymerization" *Matter* **2019**, 1, 1-13.
20. Panetti, G. B.; Robinson, J. R.; Carroll, P. J.; Gau, M. R.; Manor, B. C.; Walsh, P. J.; Schelter, E. J. "Synthesis of Novel Copper-Lanthanide BINOLate Frameworks From a Hydrogen Bonding DBU-H⁺ Lanthanide BINOLate Complex" *Dalton Trans.*, **2018**, 47, 14408-14410.
19. Suarez-Martinez, P. C.; Robinson, J. R.; An, H.; Nahas, R. C.; Cinoman, D.; Lutkenhaus, J. L. "Polymer-clay nanocomposite coatings as efficient, environment-friendly surface pretreatments for aluminum alloy 2024-T3" *Electrochim. Acta* **2018**, 260, 73-81
18. Suarez-Martinez, P. C.; Robinson, J. R.; An, H.; Nahas, R. C.; Cinoman, D.; Lutkenhaus, J. L. "Spray-on Polymer-Clay Multilayers as a Superior Anticorrosion Metal Pretreatment" *Macromol. Mater. Eng.* **2017**, 1600552.
17. Robinson, J. R.; Qiao, Y.; Gu, J.; Carroll, P. J.; Schelter, E. J.; Walsh, P. J. "The Impact of Dynamic Ligand Exchange Processes on the Oxidation Chemistry of Cerium(III)" *Chem. Sci.* **2016**, 7, 4537-4547.
16. Robinson, J. R.; Gu, J.; Carroll, P. J.; Schelter, E. J.; Walsh, P. J. "Exchange Processes in Shibasaki's Rare Earth Alkali Metal BINOLate (REMB) Frameworks and their Relevance in Multifunctional Asymmetric Catalysis" *J. Am. Chem. Soc.* **2015**, 137, 7135-7144.
15. Robinson, J. R.; Fan, X.; Yadav, J.; Carroll, P. J.; Wooten, A. J.; Pericàs, M. A.; Schelter, E. J.; Walsh, P. J. "Air- and Water-Tolerant Rare Earth Guanidinium BINOLate Complexes as Practical Precatalysts in Multifunctional Asymmetric Catalysis" *J. Am. Chem. Soc.* **2014**, 136, 8034-8041.
14. Yadav, J.; Stanton, G. R.; Fan, X.; Robinson, J. R.; Schelter, E. J.; Walsh, P. J.; Pericàs, M. A. "Asymmetric Allylation of Ketones and Subsequent Tandem Reactions Catalyzed by a Novel Polymer-Supported Titanium-BINOLate Complex" *Chem. Eur. J.* **2014**, 20, 7122-7127.
13. Zhang, J.; Bellomo, A.; Trongsirawat, N.; Jia, T.; Carroll, P. J.; Dreher, S. D.; Tudge, M. T.; Yin, H.; Robinson, J. R.; Schelter, E. J.; Walsh, P. J. "NiXantphos: A Deprotonatable Ligand for Room Temperature Palladium-Catalyzed Cross-Couplings of Aryl Chlorides" *J. Am. Chem. Soc.* **2014**, 136, 6276-6287.
12. Robinson, J. R.; Yadav, J.; Fan, X.; Stanton, G. R.; Schelter, E. J.; Pericàs, M. A.; Walsh, P. J. "Non-Covalent Immobilization of Rare Earth Heterobimetallic Frameworks and their Reactivity in an Asymmetric Michael Addition" *Adv. Synth. Catal.* **2014**, 356, 1243-1254. [Selected for the issue's back cover *Adv. Synth. Catal.* **2014**, 356, 1380]
11. Yin, H.; Robinson, J. R.; Carroll, P. J.; Walsh, P. J.; Schelter, E. J. " κ^2 -coordination of 18-crown-6 to Ce(III) cations: Solution dynamics and reactivity" *Chem. Commun.* **2014**, 50, 3470-3472.
10. Piro, N. A.; Robinson, J. R.; Walsh, P. J.; Schelter, E. J. "The Electrochemical Behavior of Cerium(III/IV) Complexes: Thermodynamics, Kinetics, and Applications in Synthesis" *Coord. Chem. Rev.* **2014**, 260, 21-36.
9. Robinson, J. R.; Gordon, Z.; Booth, C. H.; Carroll, P. J.; Walsh, P. J.; Schelter, E. J. "Tuning Reactivity and Electronic Properties through Ligand Reorganization within a Cerium Heterobimetallic Framework." *J. Am. Chem. Soc.* **2013**, 135, 19016-19024.
8. Williams, U. J.; Robinson, J. R.; Lewis, A. J.; Carroll, P. J.; Walsh, P. J.; Schelter, E. J. "Synthesis, Bonding, and Reactivity of a Cerium(IV)-Fluoride Complex" *Inorg. Chem.* **2013**, 53, 27-29.
7. Nieto, I.; Wooten, A. J.; Robinson, J. R.; Carroll, P. J.; Schelter, E. J.; Walsh, P. J. "Synthesis and Catalytic Activity of Heterobimetallic Rare Earth-Zinc Ethyl BINOLate Analogues of Shibasaki's Catalysts" *Organometallics* **2013**, 32, 7431-7439.

6. Robinson, J. R.; Booth, C. H.; Carroll, P. J.; Walsh, P. J.; Schelter, E. J. "Dimeric Rare Earth BINOLate Complexes: Activation of 1,4-Benzoquinone through Lewis-Acid Promoted Potential Shifts" *Chem. Eur. J.* **2013**, *19*, 5996-6004.
5. Robinson, J. R.; Carroll, P. J.; Walsh, P. J.; Schelter, E. J. "Uranium(IV) BINOLate Heterobimetallics: Synthesis and Reactivity in an Asymmetric Diels-Alder Reaction" *Organometallics*. **2013**, *32*, 1493-1499. [**Invited for a special issue on f-elements in Organometallic Chemistry**]
4. Robinson, J. R.; Booth, C. H.; Carroll, P. J.; Walsh, P. J.; Schelter, E. J. "The Impact of Ligand Reorganization on Cerium(III) Oxidation Chemistry" *Angew. Chem., Int. Ed.* **2012**, *51*, 10159-10162. [**Selected for the issue's back cover: Angew. Chem., Int. Ed.** **2012**, *51*, 10196.]
3. Robinson, J. R.; Bahr, K. A.; Bierman, M. J.; Guzei, I. A.; Kieler-Ferguson; H. M.; McCoy A. M.; McGaff R.W. "Resolution of Enantiomers of a Series of Chiral Alkoxy-Modified Phthalocyaninato Nickel(II) Complexes by Enantioselective HPLC" *Dalton Trans.* **2011**, *40*, 11809-11814.
2. Brown, E. S.; Robinson, J. R.; McCoy A. M.; McGaff R.W. "Efficient Catalytic Cycloalkane Oxidation Employing a "Helmet" Phthalocyaninato Iron(III) Complex" *Dalton Trans.* **2011**, *40*, 5921-5925
1. Guzei, I; Spencer, L; McGaff, R; Kieler, H;* Robinson, J.R.* *Acta Crystallographica C*. **2007**.63, (4), 255-258

Patents

5. Casey, K. C.;[†] Robinson, J.R. "Catalyst for Polylactide Preparation" U.S. Provisional Application, Filed: January 21, 2022.
4. Dong, X.;[†] Robinson, J.R. "Catalyst and process for ring opening polymerization" U.S. Patent US 2021/0188878 A1, June 24, 2021.
3. Zabula, A. V.; Robinson, J. R.; Kerins, M.; Houze, E. C.; Bhargava, G.; Nahas, R. C.; Cinoman, D.; Schelter, E. J. "Coatings and Methods for Using and Producing the Same" U.S. Patent US 10,934,438 B2, March 2, 2018.
2. Lutkenhaus, J. L.; Suarez-Martinez, P.; Nahas, R. C.; Robinson, J. R. "Clay Based Anticorrosion Coatings and Methods for Applying Same to Metal Substrates" U.S. Patent US 2019/0211213 A1, July 11, 2019.
1. Robinson, J. R.; Walsh, P. J.; Schelter, E. J. "Precatalyst for Shibasaki's Rare Earth Metal BINOLate Catalysts" U.S. Patent WO 2014/205437, December 12, 2014.

Selected Invited Seminars

1. Rare-Earths Research Conference (RERC 29). Philadelphia, PA. June 2022.
2. Providence College, Chemistry Department Seminar. March 2022.
3. University of Massachusetts, Lowell, Chemistry Department Seminar. February 2022.
4. New Horizons in Molecular f-Element Chemistry. Virtual Symposium. January 2022.
5. University of Pennsylvania, Chemistry Department Seminar. November 2021.
6. Colby College, Chemistry Department Seminar. October 2021.
7. Terrae Rarae 30. **Opening Keynote**. Montepelier, France. September 2021.
8. Ecole Polytechnique, Chemistry Department Seminar. Paris, France. September 2021.
9. **Student-Invited Speaker**. University of Buffalo. Chemistry Department Seminar. September 2021
10. Symposium for Inorganic Chemistry Lectureship (in honor of Eric Schelter). ACS National Meeting. April 2021.
11. Wesleyan University, Chemistry Department Seminar. April 2021.
12. University of Memphis, Chemistry Department Seminar. March 2021
13. Stony Brook University, Chemistry Department Seminar. March 2021
14. Global Inorganic Discussion Weekdays (GIDW; Canadian Society of Chemistry). Virtual Seminar. March 2021
15. Boston Regional Inorganic Colloquium (BRIC 52). University of New Hampshire. February 2021
16. Angular Momentum. Virtual Seminar. September 2020
17. University of Houston, Chemistry Department Seminar. June 2020.
18. *Emerging Areas in Inorganic Chemistry*. ACS National Meeting. March 2020 [Postponed Due to COVID]
19. University of Connecticut, Chemistry Department Seminar. February 2020.
20. Iona College, Chemistry Department Seminar. October 2019.
21. Juniata College, Chemistry Department Seminar. September 2019.
22. University of New Hampshire, Chemistry Department Seminar. April 2019.
23. University of Rhode Island, Chemistry Department Seminar. December 2018
24. University of Massachusetts, Dartmouth, Chemistry Department Seminar. October 2018.
25. Rhode Island College, Chemistry Department Seminar. October 2017.
26. Bridgewater State University, Chemistry Department Seminar. September 2017.

27. University of Wisconsin, La Crosse, Chemistry Department Seminar. September 2017.
28. Skidmore College, Chemistry Department Seminar. April 2017.
29. Boston Regional Inorganic Colloquium (BRIC 41). MIT. October 2016.

SYNERGISTIC ACTIVITIES

1. Education/Teaching. **Instructor**: Brown University *Inorganic Chemistry* (2020-present). **Instructor**: Brown University *Modern Applications of Physical Methods to Synthesis* (2018, 2019). **Instructor**: Brown University *Organometallic Chemistry* (2016-present). **Instructor**: Initiative to Maximize Student Development Modules: *Research Mentoring in Science* (2018, 2019, 2022). **Honors Examiner**: Swarthmore College, *Organometallic Chemistry* (May 2022). **Guest Lecture**: Swarthmore College, *Organometallic Chemistry* (November 2021). **Guest Lecture**: Brown University, Writing Center; *Scientific Writing from a Chemist's Perspective* (2017). **Guest Lecture**: Brown University, *First-Year Seminar – Renewable Energy* (2017). **Panelist**: Brown University *How I Approach Hybrid Teaching*. **Founder/Organizer**: *Rare-earths Summer School* (Summer 2022). Initiated and organized a 2-day summer school on the chemistry and applications of the rare-earths targeted at advanced undergraduate and junior graduate students (focus on HBCU and MSI). **Founder/Organizer**: *Chemistry Career Series* (2017-Present): Initiated seminar series, workshops, and networking events aimed at highlighting diverse STEM career paths. Over 18 speakers (~3-6/year) have participated from industry, government, and academia. **Founder/Organizer**: *Chemistry Ambassador Program* (2017-Present): Initiated program to recognize outstanding current graduate students and organize public seminars at their *alma mater*. **Advisor**: *Chemistry Department Undergraduate Group (DUG)* (2016-Present). **First-year and Second-year Advising**: 12-students / year (2018-present). **Member**: *Team Enhanced Advising and Mentoring, TEAM* (member, 2018-2019), *Sheridan Center Junior Faculty Teaching Fellow* (2017-2018), **Board Member**: *HHMI Sheridan Center Research Initiative Advisory Group* (2018-2019).

2. **Brown University, Single-Crystal X-ray Diffraction Facility Director (2016-Present)**. Established *RI SC-XRD Supergroup*, bringing together over 100 researchers across 14 institutions (R01 & PUI) in southern New England. Successful NSF MRI for a state-of-the-art, dual microfocus source single crystal X-ray diffractometer.

3. **Broadening Participation of Underrepresented Groups in STEM**. **Coordinator/Mentor**: *RI ACS Project SEED* (2018-Present). **Mentor**: *Leadership Alliance* (2018-Present) - *Summer Research Early Identification Program* (SR-EIP) and *First-Year Research Experience* (FYRE). **Founder/Mentor**: *Brown Chemistry Summer Diversity Mentor Program* (2018-Present). **Co-PI & Member**: *ACS Bridge Program* (2020-Present). **Graduate Program**: *Selection Committee, Brown Initiative to Maximize Student Development* (IMSD, 2019-Present), **Co-Chair**: *Brown Chemistry Recruiting Committee* (2016-Present), **Member**: *Brown Chemistry Admissions Committee* (2016-Present), *Brown Chemistry Diversity Inclusion Action Committee* (2016-Present). **Research Mentor**: Mentored 26 students (post-grad, grad, undergrad, high school) identifying as women or historically underrepresented groups. **Education**: *Research Mentoring in Science* (Co-developed multi-part module building in inclusive mentoring practices; 2018, 2019).

4. **Community Outreach**. **Co-Founder/Organizer**: *RI ACS Project SEED* (2017-Present). *Brown University STEM Day* (2017-Present). *Providence Chemistry Research in the Classroom* (2020-Present). **Mentor**: *ACS Science Coach* (2021-Present). **Chemistry Lead**: *Big Bang Science Fair* (Providence Water Fire: 2018, 2019). **Judge**: *Rhode Island Science Fair* (2017-Present), *Brown - WomXn in Science* (2019), *Terrae Rarae* (2021), *NE Energy Research Forum, Poster Competition* (2017).

5. **Service to the Chemistry Community**. **Co-organizer**: *New Horizons and Frontiers in f-Element Chemistry* (4-session, 26-speaker global line-up, replaced original Pacifichem symposium; 800+ global registrants, 180-275 'real-time' attendees) **Co-organizer**: *Angular Momentum* (Monthly virtual symposium on 4f- and 5f-element chemistry; 900+ registrants with 60-160 'real-time' attendees; 30+ global speakers to date). **Organizer**: *ACS National Meeting Sessions: Lanthanide and Actinide Chemistry* (Fall 2022 – Present). **Panel or Ad-Hoc Review**: *Oakridge Associated Universities (Powe Awards)*, *DOE Basic Energy Science (BES)*, *DOE Office of Science Graduate Student Research (SCGSR)*, *NSF Chemistry Division (Synthesis, Catalysis)*, *NSF Graduate Research Fellowship (GRFP)*, *DOD National Defense Science and Engineering Graduate Fellowship*. **Journal Reviewer**: *J. Am. Chem. Soc.*, *Inorg. Chem.*, *ACS Omega*, *Angew. Chem. Int. Edit.*, *Chem. Eur. J.*, *J. Polym. Sci.*, *Eur. J. Inorg. Chem.*, *Chem. Commun.*, *Inorg. Chem. Front.*, *Dalton Trans.*, *New J. Chem.*, *iScience*, *J. Luminescence*, *Symmetry*.

6. **Service to the University**. **Mentor**: 10 Ph.D. students, 26 undergraduate students. **Advisor**: *First- & Second-Year Advising* (~24 students). *Thesis Committee Member* (36 Ph.D. students). **Chair**: *Chemistry Department Safety Committee*, *Graduate Recruiting Committee*. **Member**: *University Safety Committee*, *Instrument & Space Committee*, *Graduate Admissions Committee*, *Curriculum Committee*, *Chemistry Diversity & Inclusion Action Committee*.

Fellowship & Research Award Review Panel: *University Research Seed & Salomon Awards, IMSD Fellowship, Undergraduate Teaching & Research Awards.*